AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A III-nitride compound semiconductor light emitting device comprising:

an active layer emitting light and being interposed between a lower contact layer made of n-GaN and an upper contact layer made of p-type III-nitride compound semiconductor layer, the active layer having at least one quantum well layer and one quantum barrier layer in contact with the quantum well layer,

an n-type electrode layer formed on the lower contact layer,

a lattice mismatch-reducing layer made of $In_xGa_{1-x}N(x>0)$, grown on the lower contact layer and having a thickness of 200-1000 Å, the lattice mismatch-reducing layer having an energy band gap larger than the energy band gap of the quantum well layer and smaller than the energy band gap of the quantum barrier layer,

an electron supply layer made of $n\text{-}Al_yGa_{1-y}N(y\geq 0)$ and grown on the lattice mismatch-reducing layer, and

a crystal restoration layer made of $In_zGa_{1-z}N(z>0)$, grown on the electron supply layer and in contact ~~wiht~~ with the active layer.

2. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein the active layer has a single-quantum-well or multiple-quantum-well structure comprising quantum well layer made of $In_xGa_{1-x}N$.

3. Canceled

4. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein the lattice mismatch-reducing layer is undoped.

5. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein the indium content of the lattice mismatch-reducing layer is $0<x\leq 0.4$.

6. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein the Al content of the electron supply layer is $0<y\leq 0.2$.

7. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein the electron supply layer has a thickness of 10-500 Å.

8. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein the doping concentration of the electron supply layer is $5x10^{17}$-$10x10^{21}$ atoms/cm^3.

9. (Currently Amended) The III-nitride compound semiconductor light emitting device of claim 1, wherein ~~the active layer has a multiple quantum well structure composed of an alternate stacking of quantum well layers and quantum barrier layers and~~ the crystal restoration layer has an energy band gap larger than the energy band gap of the quantum well ~~layers~~ layer and smaller than the energy bandgap of the quantum barrier ~~layers~~ layer.

10. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein the crystal restoration layer has a thickness of 10-500 Å.

11. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein the crystal restoration layer is undoped.

12. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein the indium content of the crystal restoration layer is $0<z\leq 0.4$.

13. (Currently Amended) ~~The~~ A III-nitride compound semiconductor light emitting device ~~of claim 1,~~ comprising:

an active layer emitting light and being interposed between a lower contact layer made of n-GaN and an upper contact layer made of p-type III-nitride compound semiconductor layer,

an n-type electrode layer formed on the lower contact layer,

a lattice mismatch-reducing layer made of $In_xGa_{1-x}N(x>0)$, grown on the lower contact layer and having a thickness of 200-1000 Å,

an electron supply layer made of n-$Al_yGa_{1-y}N(y\geq 0)$ and grown on the lattice mismatch-reducing layer,

a crystal restoration layer made of $In_zGa_{1-z}N(z>0)$, grown on the electron supply layer and in contact with the active layer,

an electron acceleration layer made of n-GaN or undoped GaN and grown on the lower contact layer, and

a heterojunction electron barrier-removing layer made of a higher doping concentration of n-GaN than that of the electron acceleration layer and grown on the electron acceleration layer,wherein the lattice mismatch-reducing layer is grown on the heterojunction electron barrier-removing layer.

14. (Original) The III-nitride compound semiconductor light emitting device of claim 13, wherein the doping concentration of the electron acceleration layer is $1x10^{15}$-$1x10^{18}$ atoms/cm^3 when the electron acceleration layer is made of n-GaN.

15. (Original) The III-nitride compound semiconductor light emitting device of claim 13, wherein the electron acceleration layer has a thickness of 100-10000 Å.

16. (Original) The III-nitride compound semiconductor light emitting device of claim 13, wherein the doping concentration of the heterojunction electron barrier-removing layer is $1x10^{18}$-$1x10^{21}$ atoms/cm^3.

17. (Original) The III-nitride compound semiconductor light emitting device of claim 13, wherein the heterojunction electron barrier-removing layer has a thickness of 10-300 Å.

18. (Original) The III-nitride compound semiconductor light emitting device of claim 13, wherein the heterojunction electron barrier-removing layer is a delta-doping layer.

19. (Original) The III-nitride compound semiconductor light emitting device of claim 1, wherein a sequential stack of an electron acceleration layer made of n-GaN or undoped GaN and a heterojunction electron barrier-removing layer is interposed between the lower contact layer and the lattice mismatch-reducing layer, and the heterojunction electron barrier-removing layer is composed of an alternate stack in a superlattice form of a first layer made of n-GaN having a higher doping concentration than that of the electron acceleration layer and a second layer made of undoped GaN or n-GaN having a lower doping concentration than that of the first layer.

20. (Original) The III-nitride compound semiconductor light emitting device of claim 19, wherein the thickness of each of the first and second layer is 5-150 Å and the thickness of the heterojunction electron barrier-removing layer is 20-500 Å.

21. (New) A III-nitride compound semiconductor light emitting device comprising:

a first layer made of n-GaN and having a first doping concentration,

an electrode in electrical contact with the first layer for supplying electrons to the first layer,

a p-type III-nitride compound semiconductor layer,

an active emitting light, being interposed between the first layer and the p-type III-nitride compound semiconductor layer and having at least one quantum well layer and one quantum barrier layer in contact with the quantum well layer,

a lattice mismatch-reduction layer made of $In_xGa_{1-x}N(x>0)$ interposed between the first layer and the active layer and having an energy band gap larger than an energy band gap of the quantum well layer and smaller than an energy band gap of the barrier layer, and

a second layer made of n-GaN having a second doping concentration larger than the first doping concentration for removing the heterojunction electron barrier between the first layer made of n-GaN and the lattice mismatch-reduction layer made of $In_xGa_{1-x}N(x>0)$.

22. (New) The III-nitride compound semiconductor light emitting device of claim 21, comprising:

a third layer made of n-GaN or undopped GaN interposed between and in contact with the first layer and the second layer and having a third doping concentration smaller the first doping concentration.

23. (New) The III-nitride compound semiconductor light emitting device of claim 22, wherein the lattice mismatch-reduction layer is undoped.

24. (New) The III-nitride compound semiconductor light emitting device of claim 21, wherein the second doping concentration is $1x10^{18}$-$1x10^{21}$atoms/cm^3.

25. (New) The III-nitride compound semiconductor light emitting device of claim 21, wherein the second layer has a thickness of 10-300 Å.

26. (New) The III-nitride compound semiconductor light emitting device of claim 21, wherein the second layer is a delta-doping layer.